THE NEW YORK
ACADEMY OF MEDICINE

VOL. II SEPTEMBER, 1926 No. 9

BACON'S RELATION TO MEDICINE

Lord Bacon had already climbed far up the slippery heights of place and power when he wrote, at the age of 37:

"It is a strange desire to seek power and to lose liberty: or to seek power over others and to lose power over a man's self. The rising unto place is laborious; and by pains men come to greater pains: and it is sometimes base; and by indignities men come to dignities. The standing is slippery, and the regress is either a downfall or at least an eclipse, which is a melancholy thing."

Never has there been, perhaps, a preachment more diametrically opposed to a man's practice, a mind of greater wisdom and sagacity, yet powerless, in supreme situations, to choose the simple, straight course which is the plain pathway of truth and honor. As a mere boy, Bacon revealed one ply of his character when he gained the favor of Queen Elizabeth by a deft flattery. The same boy broke open his toy drums and trumpets "to look for the sound," abandoned his games to investigate the cause of an echo, and at twelve was busy with the art of legerdemain. In the gloomy period following his downfall, Bacon lost his life from exposure to cold in the prosecution of a biological experiment. Given his genius, his strong common sense, his well-balanced mind, he would undoubtedly have made a great name as a physician.

No other Englishman, between Linacre and Harvey, did more for medicine, the object of his particular regard. The story of Bacon's life, indeed, forces upon us the conviction of Allbutt: "Francis Bacon had done better to have gone with Harvey to Padua." The rock upon which Bacon split was his legal training, to which it is only fair to add his lowered vitality, the equivalent, in the long run, of a cold heart, and his social station, which, centering upon creature comforts and worldly place, made

for the enslaved or passive mind. The rough handling dealt out to Bacon in Macaulay's well-known essay expresses the traditional Anglo-Celtic contempt for lack of pluck in a first-class situation—

> "But More of More Hall,
> with nothing at all,
> He *slew* the dragon of Wantley."

Yet, at the age of 35, Bacon incurred the lasting hatred of Elizabeth by opposing her demand for subsidies in Parliament, an action not devoid of the generosity of youth, as voicing the rights of the people. He never repeated the experiment. In 1601, he submits to be the passive agent in the betrayal and execution of Essex, his great-hearted friend, who had enriched him by the gift of an estate worth half a million in present money. In 1621, we find him disgraced and shorn of his honors as a bribe-taking statesman, in reality the helpless scapegoat of Buckingham.

Time, which effaces all things, has dealt gently with the memory of Bacon. A physician would see this friend of medicine as, first of all, a man who was all mind, of delicate health, a victim of circumstance, snatched from Cambridge at sixteen to be trained for diplomacy, forced to take up the law through loss of his inheritance, a political thinker in advance of his time, at the beck and call of tyrannous monarchs and overweening patrons, beset by enemies all his life and eventually waylaid by them, always in other people's hands, a well-born gentleman in his breeding, of expensive personal tastes, and, for that reason, perhaps, daunted by the fear of coming down in the world. A homely German proverb runs: "To be poor is tolerable: to become poor is terrible."[1] In Bacon's case, the English custom of placing children in unsuitable positions, without reference to their vocational aptitudes, was a virtual selling into slavery. As Ben Franklin observed: "A good kicking out of doors is sometimes better than all the rich uncles in the world." Bacon's uncle was no less than Burleigh, Elizabeth's great minister, who, however, disliked him and blocked his chances for preferment, while his cousin, Robert Cecil, hated him. We must judge of

[1] *Arm sein ist nicht schlimm: arm werden ist schrecklich.*

Bacon by those pathetic lines from his will, which so well illustrate the simplicity and compact brevity of his literary style: "For my name and memory, I leave it to men's charitable speeches, and to foreign nations and to the next age."

Foreign nations, as well as his own, have not failed to judge of Bacon in the light of his real genius. Apart from the idolatry of Spedding, he was admired by Leibnitz, Boerhaave, Haller, Voltaire, d'Alembert, Virchow and Pagel, as well as by Boyle, Sydenham and Pringle. Three hundred years after his death (April 9, 1926), his scientific reputation has taken on new aspects and requires new appraisals. This has been recently attempted by two eminent medical historians, Dr. Charles Singer (London), who deals with Bacon's relation to science,[2] and Professor Max Neuburger, who analyzes his contribution to medicine.[3]

At this time of day, Bacon's relation to the science of the Renaissance is seen to be that of the forerunner rather than of the interpreter or participant. As Macaulay expounds at great length, Bacon did not invent inductive reasoning, which was known as such to Aristotle and is employed constantly by any of us in the ordinary transactions of life; nor did he elucidate it particularly well. His elaborate categories are more complex than those of the mediaeval logicians and "only tell us to do what we are all doing." In 1863, the chemist, Liebig, published a slashing critique of Bacon's contribution to inductive science.[4] He claims, not without venom, that many of Bacon's alleged experiments were lifted bodily from the works of Gilbert, Paracelsus, Drebbel and other actual workers whom he ignored or despised; that his own experiments were often fantastic and ill-considered; that his reasoning about them is sometimes delusive, confusional and that of a lawyer, bent upon deception. That Bacon lacked the training for experimentation was at once apparent to the keen judgment of William Harvey, who admired his wit and style but said that "he writes philosophy (science) like a Lord Chancellor." Singer points out that Bacon is the solitary instance of an attempted fusion of law and science. "It

[2] Singer: *The Nation*, Lond., 1926, XXXIX, 41–43.

[3] Neuburger: *Med. Life*, N. Y., 1926, XXXIII, 149–169.

[4] Liebig: Ueber Francis Bacon von Verulam, Munich, 1863.

may be," he adds, "that it was just Bacon's legal powers and legal training that shut him out from a real appreciation of the scientific process." That process Singer defines as essentially an act of judgment, comprising two distinct mental moves, viz., the making of a discovery and the demonstration of its truth. In neither of these did Bacon ever succeed. His real service to science, as Singer sets forth, lies in the clean sweep he made of Platonism and scholasticism, the influence of his writings upon the eventual foundation of the Royal Society, as acknowledged by Boyle, and upon British psychology, beginning with Locke. To these we may add the actual prediction of scientific institutions of modern type in the "House of Solomon" and the "New Atlantis." Interesting are Bacon's four categories of *"Idols"* or misleading notions, so often cited by Osler, and the basis of Harvey Robinson's thesis that all human strife and error arises from confusing opinions about things with the things themselves:

> The *Idola Tribus* (idols of the tribe) are the fallacies of the herd instinct and of mob psychology, to which all men are liable. The *Idola Specus* (idols of the cave) are the errors inherent in our own minds, our personal prejudices. The *Idola Fori* (idols of the market-place) imply our superstitious reverence for empty catchwords and clap-trap, as opposed to reality. The *Idola Theatri* (idols of the theatre) are errors springing from our tendency to swallow cut-and-dried systems of thought.

To these *Idola,* which reveal the acumen of the great lawyer, Singer adds a fifth, the *Idola Academiae* (idols of the schools), errors due to following blind, learned rules instead of forming independent judgments. "It was this fifth idol," says Singer, "that prevented Bacon from entering the promised land, of which but a Pisgah view was granted him." But here, it is interesting to note that the idea of the recent series of books bearing titles such as "Icarus or the Future of Science," or "Tantalus or the Future of Man," really derives from Bacon's "Wisdom of the Ancients." Thus Bacon's relation to science was really prophetic and (so to say) heraldic of the new order of things. There is no exaggeration in his claim that "he rang the bell which called the wits together."[5]

Macaulay praises Bacon for dispensing with the idealism of Plato, which aimed to make men wiser and more virtuous, sub-

[5] Cited by Singer.

stituting therefor the plain utilitarian motive of increasing our materal and physical well-being. Liebig denounces this Baconian materialism on the ground that the true aim of science is the discovery of truth. It is none the less a fact, however, that the utilitarian motive has actually organized and accelerated scientific research and that the physical well being of man is a very effective aim for medicine and sanitation. It is here, in fact, that we find Bacon at his best. He was keenly interested in medicine, and, in the opinion of the clinician Bamberger, "would have made a brilliant success had he devoted himself to it." Bacon was, indeed, the first to stress the needs and deficiencies of Renaissance medicine. He said of the physicians of his time that they saw things from afar off, as from a high tower, and that, like spiders, they spun webs of sophistry out of their own bowels.[6] To Bacon, the aim of medicine, is threefold, viz., to maintain health, heal disease and prolong life. This important section of the "Advancement of Learning" is analyzed at length by Professor Neuburger. In preserving health, Bacon values physical exercise above temperance, which he regards as a much overrated virtue. As to the special aim of medicine, the cure of disease, he notes that the Hippocratic plan of taking accurate case histories has fallen into disuse, so that details are passed over as commonplaces. Anatomical studies should be extended to structural variations in different people (our present doctrine of the constitution) as helping to elucidate unknown diseases; to the notation of pathological formations in dissection; to the study of the humors (secretions); to locating the "footsteps and impressions of diseases and injuries" in animals, as well as in man; and to the "dissection of beasts alive" to elucidate what goes on in life. Bacon enlarges upon the necessity of a special study of incurable diseases, the critical revision of pharmacology, remedies for the alleviation of pain, euthanasia, and the possibility of making artificial mineral waters. The third aim of medicine, the prolongation of life, is expounded in Bacon's *Historia vitae et mortis,* which, as conveyed in Neuburger's elaborate analysis, rests upon the old doctrine of vital spirits and is otherwise replete with those dietetic and therapeutic whimsies with

[6] Cited by Allbutt.

which the Renaissance literature abounds. It is a striking documentation of Bacon's lively interest in medicine. Neuburger states that it was admired by Haller and held the field, as a manual of personal hygiene, until the advent of Hufeland's *Makrobiotik*. Better evidence of Bacon's ability as a thinker on medicine is to be found in the *De augmentis* and *Sylva sylvarum*, notably his views as to the value of psychotherapy in mental disorders, the future possibilities of microscopy in examining the blood and the urine, the advantages of administering drugs in a certain order (*filum medicinale*), the use of herbs and fruits as medicines, and the means of preventing putrefaction. Here, again, Bacon is the prophet and the herald. Some of his best medical aphorisms are to be found in the *Essays*, which gave him his place as the greatest English prose writer of Shakespeare's time, and which, through their purple patches of poesy, have even given color to the theory that Bacon wrote Shakespeare's plays. But the style of the essays is, in the main, prosy compact, lawyer-like, sometimes Biblical, with knottier Latin citations than we find in Montaigne. The prudent, low-spirited Bacon as the supposititious author of *Macbeth* or the *Merry Wives* or *Midsummer Night's Dream* is as unthinkable as some musical theorist, like Richter or Jadassohn, as the composer of the *Eroica* or the Bacchanale in *Tannhäuser*. One misses the *désinvolture*, the *élan vital*, the daemonic quality of true artistic genius. Bacon excelled in Dryden's "other harmony of prose." A poet he was not.

Two of the Essays, viz., "Of Regiment of Health" and "Of Deformity" are medical in content. In the former, Bacon notes that what a man finds most suited to himself is really "the best physic to preserve health," that youth can stand many excesses, that change of regimen in age should be extensive rather than confined to one item, that to inure the body to hardship will enable it to weather diseases better. The well-known peculiarities of doctors in the Middle Ages and later are conveyed in Bacon's suggestion that it is better to employ two physicans than a doctor who plays up to the patient's whims or one who handles his case mechanically, without reference to his real condition in either event. In the essay on Deformity, Bacon elucidates the Adler inferiority-complex in the spirit of the man of affairs who

has noticed that compensatory hypertrophy of talent and effort is usual in people to whom nature has been otherwise unkind:

"Whosoever hath anything fixed in his person that doth induce contempt, hath also a perpetual spur in himself to rescue and deliver himself from scorn. Therefore all deformed persons are extreme bold, first, as in their own defence, as being exposed to scorn, but in process of time by a general habit. . . . So that upon the matter, in a great wit, deformity is an advantage to rising."

A man so sagacious and observant might obviously have made a great physician. Professor Neuburger approaches the great Lord Chancellor in this way, with the comprehending sympathy of a true medical man, and, one might almost think, with regard to the lines which Bacon wrote in the dark days before his death, in the exquisite English of which he was so assured a master:

"Death arrives gracious only to such as sit in darkness, or lie heavy burthened with grief and irons; to the poor Christian that sits bound in the galley; to despairful widows, pensive prisoners and deposed kings; to them whose fortune runs back and whose spirits mutiny; unto such death is a redeemer, and the grave a place for retiredness and rest.

These wait upon the shore of death and waft unto him to draw near, wishing above all others to see his star, that they might be led to his place; wooing the remorseless sisters to wind down the watch of their life, and to break them off before the hour. . . .

And since I must needs be dead, I require it may not be done before mine enemies, that I be not stript before I be cold; but before my friends. The night was even now; but that name is lost; it is not now late but early. Mine eyes begin to discharge their watch, and compound with this fleshly weakness for a time of perpetual rest; and I shall presently be as happy for a few hours, as I had died the first hour I was born."

F. H. Garrison